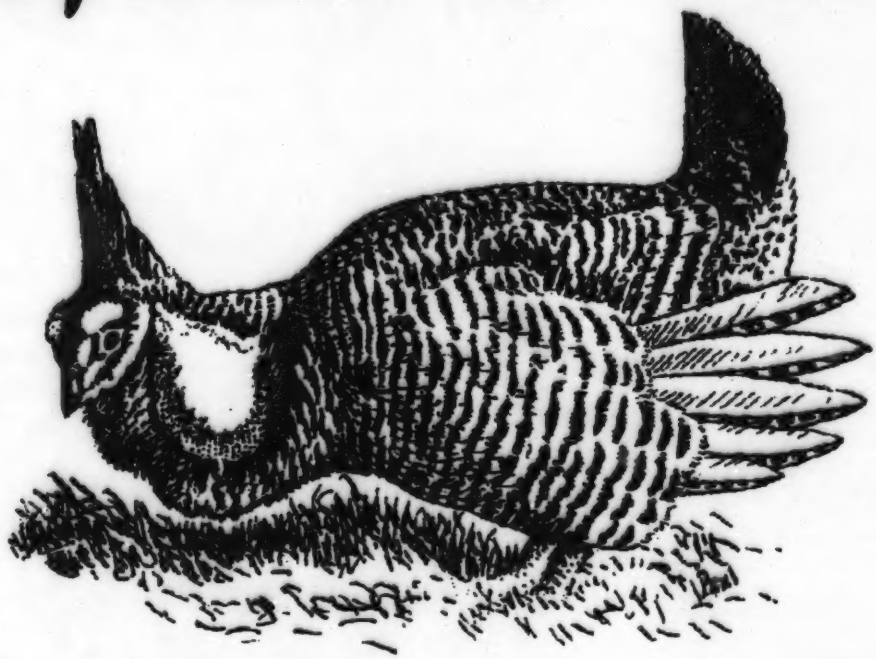
SASKATCHEWAN

Status: Extirpated

Greater Prairie Chicken

(*Tympanuchus cupido pinnatus*)

Species at Risk



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Description

The Greater Prairie Chicken is a medium sized grouse with a short, dark rounded tail and feathered toes. The back of the bird is brown, and the under portion is buff white, both heavily horizontally barred with dark brown. A tuft of stiff elongated feathers occur on both the sides of the neck. These feathers are more exaggerated in males and located just above orange air sacs which are used in mating rituals.

Similar species

Prairie Chickens have often been confused with Sharp-tailed Grouse (*Tympanuchus phasianellus*). The two species differ in looks and preferences.

The Greater Prairie Chicken has a heavily barred plumage all over, including on the ventral side. It also has a short, dark round tail. The Sharp-tailed Grouse has "V" marks on its under side and a white belly. The Sharp-

Sharp-tailed Grouse, for comparsion. Note the "V" shaped markings on the underside and the white-edged pointed tail.

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tailed Grouse can be distinguished from all other grouse by its pointed white-sided tail.

While Sharp-tailed Grouse eat a lot of tree buds in the winter, the Prairie Chicken does not. Prairie Chickens also use agricultural areas more than Sharp-tailed Grouse. It also seems that the Sharp-tailed Grouse is much more tolerant of woody vegetation in its nesting habitat, while the Prairie Chicken needs open prairie for nesting. However, its nesting success decreases when the vegetation is grazed too short.

Status

The Greater Prairie Chicken was listed as endangered in Canada in 1978 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In 1990, the bird was listed as extirpated. While it no longer occurs in Canada, substantial populations of the same subspecies remain in the United States; thus, the global population is not endangered.

The Greater Prairie Chicken began to move into Canada from North Dakota and Minnesota in the late 1870's-1880's. We have no historical record of it in Canada prior to this time. The removal of plains bison (*Bison bison*), along with the higher than normal precipitation in those years, produced taller grasses on the Canadian Prairies. This improved both the quantity and quality of suitable habitat in Alberta, Saskatchewan, Manitoba, and southern Ontario. The species thrived with small scale farming activities and, by the early 1900's, an estimated one million or more were breeding on the prairies.

Small scale farming operations became larger. This slowly turned native prairie into cultivated crops and cattle pastures. Potential range for the Greater Prairie Chicken began to disappear and, as a result, their numbers declined. By 1940, they were mostly absent from the Canadian prairies. In the years between 1965 and 1977, there were only 15 sightings of the bird in Saskatchewan.

The Greater Prairie Chicken is only found in North America. Currently, its distribution in the United States is fragmented and only covers a fraction of its original range. The largest populations are located in Kansas, South Dakota, and Nebraska.

Habitat

Greater Prairie Chickens prefer native grassland consisting of mixed-grass and tall-grass prairie. Ideal habitats are made up of 60-80 percent grassland, with patches of brush and grain lands throughout.

Life Cycle

There is no information available on the breeding habits of Greater Prairie Chickens in Canada. The following observations come from the United States.

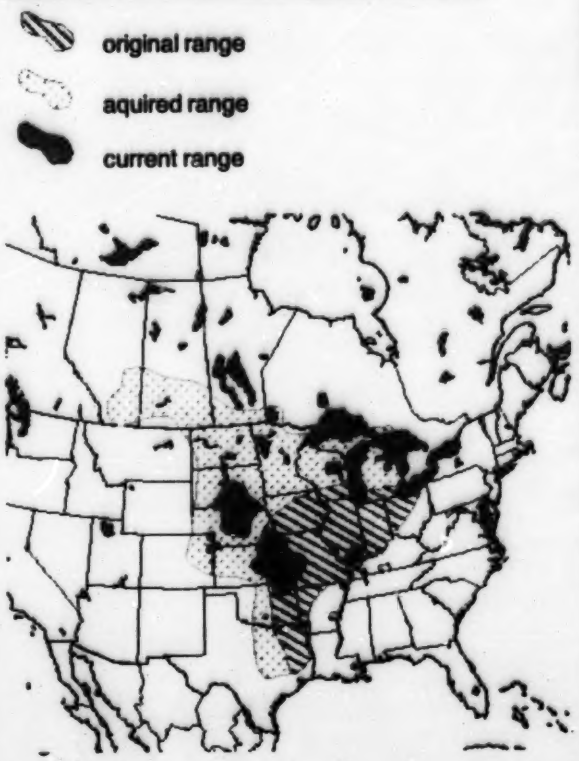
Leks or Booming Grounds

Like the Sharp-tailed Grouse and the Sage Grouse (*Centrocerchus urophasianus*), male Greater Prairie Chicken congregate in April and May on dancing grounds called "leks" or "booming grounds". Each individual holds a territory on the lek and displays to his neighbours in a ritualistic dance: they bob their heads and erect the feathers on their necks, displaying the bright orange air sacs underneath. They rapidly inflate and deflate these sacs, which produces a drum-like booming sound that advertises the presence of the lek to females. The males continue the dance by drooping their wings, spreading their fan-like tail and rapidly stomping their feet. Adult males reestablish their territories on the lek in the fall and display.

Booming grounds are not randomly located. They are selected areas where the grass is much shorter than the surrounding area. Studies over the past 75 years indicate that at least 75 percent of the nests are located within 1.7

Historic, Acquired and Current Distribution of the Greater Prairie Chicken in North America
(*Tympanuchus cupido pinnatus*)

LEGEND



(adapted from the National Recovery Plan (1993) and Brewster et al. (1977)).

kilometer (1 mile) of a lek and almost 100 percent are located within 3 kilometers (2 miles) of a lek.

Females likely prefer to mate with the dominant males who have located their territories near the centre of the lek, as has been documented in other grouse species.

Nests

After visiting the lek and mating, the females start laying eggs. It is thought that their nests are already built. Hens choose a nesting area consisting of a mix of agricultural lands and grassland cover. They need to stay in good physical condition for egg production, incubation and rearing of chicks, a time demand of around 70 days. A good-quality home range is therefore important for the number of eggs produced as well as the rearing of chicks who need good-quality food.

Nests are shallow depressions on the ground, lined with grass and other materials such as feathers. They are usually surrounded by tall grass or bushes. The clutch size, or number of eggs laid, averages around 11-12. Early clutches usually have around 12-14 eggs and can sometimes have up to 17. One egg is usually laid every day. Egg-laying period begins around the middle of April and continues until around the first week in June. Hens will renest if their nest is destroyed. Late clutches are smaller, between 7 and 10 eggs.

Eggs and incubation

The eggs are olive-buff in color and are dotted with small brown spots. During egg laying, hens move alone or in small groups. As more eggs are laid, hens begin to spend more and more time at the nest until incubation begins, near the end of egg laying. Incubation lasts 23-25 days, then the eggs hatch.

Chicks

The young are precocial (rapidly independent). Like all young grouse, they hatch covered with down and can start looking for their own food shortly after they are dry. The hen leads them away from the nest after the first day. Hens with broods move to denser vegetation than what was used for nesting. Beginning around 6-8 weeks, the chicks begin making short flights to the feeding grounds. Around that time, families gradually disintegrate. Chicks eat mainly insects for their first 4-5 months of life, and gradually add plants, seeds and fruits to their diet.

As in most other grouse, hens look after eggs and young all by themselves.

The high reproductive potential of Prairie Chicken is balanced by a high mortality.

Limiting Factors

The main factor affecting the survival of the Greater Prairie Chicken appears to be the lack of large, ungrazed blocks of native prairie grassland. Small, fragmented habitats produce small, isolated populations. Such populations of Greater Prairie Chickens are always at risk of extinction due to random events such as drastic changes in climate, predation, or disease. These populations are also unable to breed with distant populations. As a result, these smaller groups are forced to inbreed (mating with close relatives). Inbreeding decreases the amount of genetic variation (the gene pool). With less genetic variability, the population can become less immune to disease, have a shorter life span, or have decreased ability to reproduce.

Another factor affecting the Prairie Chicken is competition with the native Sharp-tailed Grouse which inhabits virtually all habitats that can support Prairie Chickens. This presents two problems to the Greater Prairie Chicken. First, Sharp-tailed Grouse have a wider habitat tolerance and will out compete the Greater Prairie Chicken on suitable habitat. Secondly, Greater Prairie Chickens are known to mate with Sharp-tailed Grouse so any remaining populations would be in danger of cross breeding.

Recovery Efforts

A Greater Prairie Chicken recovery team was established in 1993 to determine the possibility of reestablishing the species in Canada. Thorough review by the team determined that limiting factors were too great to attempt to recover a population of Greater Prairie Chickens.

The team identified that there was no suitable release site for the bird. Any site that may have been considered would require substantial enhancement and further management to maintain winter food supplies. They also recognized that any suitable habitat was already occupied by Sharp-tailed Grouse. This would make it very difficult for the Greater Prairie Chicken to establish itself.

These reasons led the recovery team to conclude that it would be far too costly, and the chances of successfully establishing and maintaining a population of Greater Prairie Chickens are far too low, to attempt any further recovery. Its status as a recent immigrant to and short-term resident in Canada also contributed to this decision.

Selected References

Please contact your local library or visit the internet sites below for more information on the Greater Prairie Chicken.

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